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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,458

11/13/2003

Wolf-Dieter Franz

5455-2PCIP

9314

27799 7590 01/25/2007  
COHEN, PONTANI, LIEBERMAN & PAVANE  
551 FIFTH AVENUE  
SUITE 1210  
NEW YORK, NY 10176

EXAMINER

WONG, EDNA

ART UNIT

PAPER NUMBER

1753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/712,458

Applicant(s)

FRANZ, WOLF-DIETER

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 3-19 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

This is in response to the Amendment dated December 14, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Response to Arguments***

#### **Claim Rejections - 35 USC § 112**

Claim 7 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claim 7 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicant's amendment.

#### **Claim Rejections - 35 USC § 103**

I. Claims 1, 3-11 and 14-15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175 ('175)**.

The rejection of claims 1, 3-11 and 14-15 under 35 U.S.C. 103(a) as being unpatentable over Evans et al. in combination with JP 3027175 ('175) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the following reasons:

Applicant states that JP '175 is nonanalogous art. Since the carbon fiber making

of JP '175 is neither in the field of applicant's endeavor (applying a metal coating to graphite) nor reasonably pertinent to the particular problem (low adhesive strength and low temperature stability of the metal coating).

In response, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 US 904 (1991); and MPEP § 2144.

Applicants state that the oxidizing of Evans is conducted, in an acid solution, after the carbon filaments are made (i.e., after the heat treatments) and for the purpose of improving the metal coating results. The oxidizing and the subsequent metal coating are not used to improve the strength of the carbon filaments or the resulting metal composite because Evans uses the carbon filaments to reinforce the metal.

In sharp contrast, the anodic etching of JP '175 is conducted, in an alkaline solution, before the carbon fiber is made (i.e., before the heat treatment) and for the purposes of improving the high orientation properties and tensile strength of the resulting carbon fiber. No metal coating or electroplating is contemplated in JP '175.

In view of these fundamental differences between Evans and JP '175, a person with ordinary skill in the art would not be motivated to replace the oxidizing of Evans

with the anodic etching of JP '175 for the purposes of improving the strength of the metal composite.

In response, a person with ordinary skill in the art would have been motivated to replace the oxidizing of Evans with the anodic etching of JP '175 for the purpose of oxidizably treating the graphite.

Applicant states that the graphitized filaments of Evans are not graphite, and Evans does not teach or suggest using graphite, as recited in claim 1.

Applicant also states that the graphitized fibers/yarns of JP '175 are not graphite either.

As a result, the combination of Evans and JP '175 fails to teach or suggest graphite, as recited in claim 1.

In response, since the definition of "graphitize" is to convert into graphite, Applicant's objective evidence must be factually supported by an appropriate affidavit or declaration to be of a probative value (MPEP § 716.01(c)).

Applicant states that Evans does not teach or suggest using both a Pd seeding step and an electroplating step, as expressly recited in claim 1.

In response, Evans teaches forming a thin coating of palladium on the filaments and a coating of electroless nickel, which is vary hard, can then be formed on the palladium sensitized carbon filaments (col. 3, line 69 to col. 4, line 20). After the initial

metal coating has been formed on the carbon filaments by electroless plating, the metal matrix may be built up to the desired shape around the coated fibers for example by electroforming (col. 2, lines 38-44).

Evans teaches using both a Pd seeding step (= forming a thin coating of palladium) and an electroplating step (= electroforming).

Applicant states that there are countless current duration ranges or applied electrical potential ranges available. The Examiner fails to explain why a person with ordinary skill in the art, when facing these countless ranges, would optimize the respective ranges to those recited in claims 9 and 14.

As to the current duration ranges, a person with ordinary skill in the art knows that different metal ions in different solution conditions will have different electrolysis conditions. The claimed current density range would have been a result-effective variable and/or an optimized variable because we don't know what the metal ion is and what the solution conditions are in claim 1. Or can every metal ion be electroplated onto the graphite to form a metal coating by utilizing a current density in the range of 0.1 to 10 A/dm<sup>2</sup> in every solution condition?

As to the applied electrical potential ranges, is there no electrical potential applied in the anodizing disclosed by JP '175? If there is, why wouldn't it be in the range of 4V to 20 V? And if it is not in that range, when  $V = IR$ ,  $V$  = voltage,  $I$  = current, and  $R$  = resistance, one having ordinary skill in the art has the skill to optimize the applied

electrical potential depending upon current and resistance present during the anodic etching.

II. Claim 12 has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175) as applied to claims 1, 3-11 and 14-15 above, and further in view of **DE 35 39 318** ('318).

The rejection of claim 12 under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** in combination with **JP 3027175** ('175) as applied to claims 1, 3-11 and 14-15 above, and further in view of **DE 35 39 318** ('318) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be persuasive.

III. Claim 13 has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175) as applied to claims 1, 3-11 and 14-15 above, and further in view of **DE 27 22 304** ('304).

The rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** in combination with **JP 3027175** ('175) as applied to claims 1, 3-11 and 14-15 above, and further in view of **DE 27 22 304** ('304) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the

reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be persuasive.

**IV.** Claim **16** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175).

The rejection of claim 16 under 35 U.S.C. 103(a) as being unpatentable over Evans et al. in combination with JP 3027175 ('175) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be persuasive.

**V.** Claim **17** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175) and **DE 35 39 318** ('318).

The rejection of claim 17 under 35 U.S.C. 103(a) as being unpatentable over Evans et al. in combination with JP 3027175 ('175) and DE 35 39 318 ('318) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be



persuasive.

**VI.** Claim **18** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175) and **DE 27 22 304** ('304).

The rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Evans et al. in combination with JP 3027175 ('175) and DE 27 22 304 ('304) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be persuasive.

**VII.** Claim **19** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans et al.** (US Patent No. 3,550,247) in combination with **JP 3027175** ('175).

The rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Evans et al. in combination with JP 3027175 ('175) is as applied in the Office Action dated July 11, 2006 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicant's remarks have been fully considered but they are not deemed to be persuasive.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-

1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

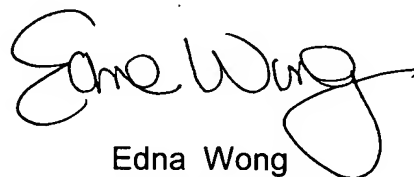
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Edna Wong", with a stylized, flowing script.

Edna Wong  
Primary Examiner  
Art Unit 1753

EW  
January 22, 2007